



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,635	09/04/2003	Huei-Pei Kuo	10007804-1	8116
22879	7590	02/22/2005	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				HU, SHOUXIANG
ART UNIT		PAPER NUMBER		
		2811		

DATE MAILED: 02/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Ae

Office Action Summary	Application No.	Applicant(s)	
	10/656,635	KUO ET AL.	
	Examiner Shouxiang Hu	Art Unit 2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 22 November 2004.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-29 is/are pending in the application.
 4a) Of the above claim(s) 5-10, 12, 17-22, 24 and 26-29 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-4, 11, 13-16, 23 and 25 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 04 September 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 09/04/2003.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 27-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 11-22-2004. Applicant's election with traverse is acknowledged. The traversal is on the ground(s) that no serious burden would be posed to examine both Group I and Group II inventions. This is not found persuasive because these inventions are distinct for the reasons given in the previous office action and have acquired a separate status in the art as shown by their different classification, the search required for Group I is not required for Group II, and separated examination and search among various classes and subclasses would be required. The search would include each of Classes/subclasses: 438/20, 28, 48, 409 and 906; 257/10 and 30; and 313/310, 496 and 501, along with key word searches. Therefore, searching and examining both of these groups of inventions would impose substantially serious burden on the examiner.

The requirement is still deemed proper and is therefore made FINAL.

2. In addition, claims 5-10, 12, 17-22 and 24 are also withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being unreadable in the elected species. These claims recite the subject matters of forming top dielectric and conductive layers before the process step of the recited "anodizing" (as recited in claims 5, 6, 17 and 18, readable on the species of Figs. 12-14), and/or that of forming conductive shielding (as

recited in the rest of the claims, readable on species of Figs. 15-18); but none of them is readable of the elected species of Figs. 7-22.

Accordingly, claims 1-29 are pending in this application; and claims 1-4, 11, 13-16, 23 and 25 remain active in this office action.

Drawings

3. The drawings are objected to because in Fig. 10, numeral "119" appears to point to a wrong place, as it wrongly ends within the layer of "118".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 1-4, 11, 13-16, 23 and 25 are objected to because of the following informalities and/or defects:

Claims 1, 13 and 25 each recite the term of "a perimeter" of the recited "semiconductor surface", but they each fail to clarify how such a perimeter is defined, as the surface of the semi-conductive surface (see 114 in Fig. 10) extends far beyond the opening of the dielectric layer (116).

In addition, the term of "a" (semi-conductive or central) below line 3 in claims 1 and 13 should read as: --the--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4, 11, 13-16, 23 and 25, as being best understood in view of the claim objections above, are rejected under 35 U.S.C. 102(e) as being anticipated by Chen (US 2003/0143788 A1).

Chen discloses a method for fabricating a porous electron emission device (Figs. 7-9; also see Paragraphs 0038 and 0039, the method comprising: forming a dielectric layer/barrier (58) over a substrate (10); and forming an opening in the dielectric layer/barrier to expose a central region of the underlying substrate where flat emitters are to be located; forming a semi-conductive surface (56, polysilicon) over the dielectric later/barrier and the central region of the underlying substrate; and anodizing the semi-conductive conductive surface which naturally forms porous region therein, wherein during anodizing, an electric field strength at the central area of the semi-conductive surface corresponding to the opening of the dielectric layer would be naturally at least as great as the one at a perimeter of the porous region in the anodized semi-conductor surface/layer as defined by the inner edge of the opening,,since the semi-conductive surface/layer is formed above the dielectric layer, i.e., in a manner substantially same as the one in the selected species of the instant invention. And, it should result in an improvement in porous distributions therein substantially as that as in the instant invention.

Regarding claims 2 and 14, the dielectric layer (58) can be formed through deposition (Paragraph 0038); thus the corresponding method of Chen should naturally include the step of removing a portion of the deposited dielectric layer so as to expose the central portion of the substrate.

Regarding claims 4 and 16, the method of Chen naturally further includes the steps of forming: a conductive layer (14) on the semi-conductive surface (56); a second conductive layer (54); a second dielectric layer (40); and a third conductive layer (42);

Art Unit: 2811

and a step of removing a portion of each of the second and third conductive layer and a portion of the second dielectric layer.

Conclusion

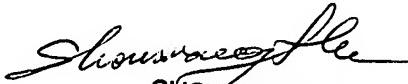
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shouxiang Hu whose telephone number is 571-272-1654. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on 571-272-1732. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH

February 9, 2005



SHOUXIANG HU
PRIMARY EXAMINER